WE CLAIM:

1. A method for reducing data loss in the event of packet loss in a modem relay connection over a packet network, comprising the steps of:

providing a packet format including a header portion, a sequence number and a data portion;

dividing said data portion into a plurality of segments;

providing new data in at least one of said segments;

providing redundant data in at least one other of said segments, wherein said redundant data corresponds to new data of at least one packet having a previous sequence number;

reading said sequence numbers of consecutively received packets to determine packet loss;

retrieving redundant data from subsequent packets if packet loss is determined.

2. The method of claim 1, further comprising:

establishing a redundancy format for a given modem relay connection including:

negotiating a repetition count value;

providing said repetition count value to each end of said modem relay connection.

3. The method of claim 2, wherein:

said repetition count value is dependant upon the characteristics of said packet network.

4. The method of claim 1, said establishing a redundancy format further including:

negotiating a whole number value for the number of new bytes in each data packet.

5. The method of claim 2 wherein;

said repetition count is re- negotiated when the packet loss number exceeds said

repetition count.

5   6. The method of claim 5, further including

detection of a value of the number of lost packets which exceeds the value of said

repetition count;

said receiving gateway reporting said detection;

adjusting said repetition count to compensate for increases in packet loss across said

10   packet network.

7. A method for reducing data loss in the event of packet loss in a modem relay

connection over a packet network including a transmitting modem and a transmitting gateway, a

receiving modem and a receiving gateway, the method comprising the steps of:

15   providing a packet format including a header portion, a sequence number and a data

portion;

dividing said data portion into a plurality of segments;

designating one of said segments as a new data segment;

providing sequential blocks of modem data from said transmitting modem to said

20   transmitting gateway;

retaining a predetermined number of sequential blocks of modem data at said transmitting

gateway, by dropping the oldest block and retaining the most recent block;

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providing the most recent block of data in said designated new data segment of said data

portion of said packet;

providing the remaining retained blocks of data in the remainder of said segments;

wherein:

5   each time said transmitting gateway receives new block of data from said

transmitting modem, said oldest block is dropped from said retained set of data,

said new block of data is encoded in the next data packet as the new data block;

and

said remaining retained blocks are encoded into said data packet as redundant data

10   blocks;

transmitting said packets from said transmitting gateway to said receiving gateway.

8. The method of claim 7, wherein lost packet recovery at said receiving gateway includes

the steps of:

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receiving said transmitted packets;

reading said sequence numbers of consecutively received packets to determine packet loss,

including;

comparing the sequence number of sequentially received packets, and

20   determining the difference in the compared sequence numbers;

providing the data corresponding to said designated new data segment, to said receiving

modem;

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additionally providing the data corresponding to the next most recent blocks of data equal in number to one less than the value of said determined difference in the compared sequenced numbers, to acquire data blocks corresponding to the determined lost packets.

9. The method of claim 8, wherein the number of said retained predetermined number of sequential blocks is re- negotiated when said number of detected missing packets exceeds said retained predetermined number of sequential blocks between the two gateway's.

10. The method of claim 9, further including

detection of a value of the number of lost packets which exceeds the value of said retained predetermined number of sequential blocks;

said receiving gateway reporting said detection;

adjusting the redundancy to compensate for increases in packet loss across said packet network.

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